DOCUMENT RESUME

ED 189 614 CS 205 694

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TITLE Estimates of Children's Television Viewing by Mother and Child.
PUB DATE Aug 80
NOTE 16p.: Paper presented at the Annual Meeting of the Association for Education in Journalism (63rd, Boston, MA, August 9-13, 1980).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Behavioral Science Research: *Childhood Attitudes: *Children: Correlation: Developmental Stages: Elementary Education: *Mother Attitudes: Mothers: Programing (Broadcast): *Self Evaluation (Individuals): *Television Research: *Television Viewing

ABSTRACT

A survey was conducted to examine developmental changes in children's interpretations of their own television viewing, and the correlation between children's self reports and their mothers' estimates of the children's television viewing time. A total of 813 second, fifth, and eighth grade students were interviewed during one school year. These children also were asked to complete television logs for three one-week periods of late afternoon and evening television viewing, while their mothers supplied family data and estimates of the children's television viewing time. The children's diary estimates of their viewing showed strong correlation across the three time intervals. Correlations between general estimates of viewing time and diary estimates were generally positive, with the youngest children exhibiting the lowest consistency level. Although mother and child estimates were significantly correlated, the absolute differences between mother and child estimates were large. Overall, mothers estimated 10 to 16 more viewing hours per week than did the children. Partial correlation procedures failed to account for this difference. These analyses of estimates of children's television viewing time indicated few age differences in abilities to produce consistent self-report viewing data but wide discrepancies between mother and child viewing estimates. It was suggested that individuals' definitions of "viewing" could explain some of the discrepancies. (Author/RL)

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Estimates of Children's Television Viewing by Mother and Child

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CS205694

Paper presented to the Theory and Methodology Division of the Association for Education in Journalism, Boston, Massachusetts, August, 1980.

The effects of television on children has been a continuing focus of research concern throughout the past decade. Since the Surgeon General's 1972 report on Television and Social Behavior, research on children's prosocial political, consumer and general socialization learning from television and the development of children's understanding of the media per se have broadened community concerns beyond the more traditional studies of the effects of television violence (cf. Comstock et al., 1978, for a review). Yet, since the Surgeon General's report there has been almost no research attention given to several very fundamental measurement issues in this research area: that of the validity and reliability of measures of children's television behavior. Several reviewers have commented on the need for better measures of children's television viewing (Lyle, 1972; Wartella, Alexander & Lemish, 1979). The several studies in the 1972 report which did examine the validity of self-report estimates, parental reports of children's television watching, diary studies and observational estimates found significant variability in estimates of viewing produced by differing methods. Let us consider these more closely.

In general, self-reports of television viewing (whether by children or adults) tend to overestimate amount of television viewing when compared to observational studies. For instance, Bechtel, Achelpohl and Akers (1972) report that when observations of family television viewing (as recorded by in-home television camera--a very intrusive sort of measurement technique) are compared to diary and general estimates, there is substantial overestimating by the subjects of their own television viewing behavior. For instance, they found about 25% overreporting on diary records compared to the filmed records and

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The research reported here was supported through a grant from the John and Mary R. Markle Foundation.

between 40 and 50% overreporting on general estimates by the subject of viewing time the previous day and on an average day.

Similarly, Israel and Robinson (1972) found in their national inventory of television watching that estimates of "how much time spent watching TV" varied from an average of 183 minutes per day as measured by the general question "On an average day, how much time do you spend watching television" to an average of 120 minutes when measured from a report of "television shows watched yesterday" to the lowest estimate of 105 minutes as estimated from diary reports. Here, as in Bechtel et al. (1972) the estimates of television watching are based on a sample of adults and children combined. Thus it would seem, the further removed in time from the viewing situation, the less accurate are viewers' estimates of their own viewing behavior. Nevertheless, current studies of the effects of television on children continue to rely on gross estimates of the amount of time spent watching television on an average day, of the frequency with which general types of programs on television are watched (e.g., Rubin, 1977; Greenberg, Atkin & McDermott, 1979). Moreover, none of the studies examining the reliability and validity of various estimates of television viewing have examined whether young children are even more unreliable than older children. That is, there has been no examination of the variability of estimates by age of the child viewer.

In general, there has been a common presumption that young children, preschool through first or second grades, are probably less able to report their own television watching behavior than are older children or adults (e.g., Murray, 1972). Consequently, studies of preschool children's television watching or young elementary school children have relied on parental reports of children's watching behavior (e.g., Stein & Friederich, 1972, Burton, Calonico & McSeveney, 1979). However, parental estimates of children's television viewing have been found not to correlate with children's own estimates (Schramm, Lyle, and Parker, 1960). For instance, Greenberg, Ericson, and Vlahos (1972) attempted

to correlate fourth and fifth grade children's estimates of their own television behavior with their parent's estimates of the children's television viewing. They found that the mothers and children disagreed on the child's viewing across several measures including estimates based on specific violent shows the children watch (r=.219), reports of the nonviolent shows children watch (.522), and estimates of the average number of hours per day children watch television (.069). The correlations between mother and child reports are quite low overall yet the researchers found no systematic relationships among the discrepancies across the measures. Unfortunately, Greenberg et al. (1972) did not indicate whether parental and child agreement on the child's television watching was higher for children in the early elementary and preschool grades, that is, for that age group of subjects for whom researchers typically rely on parental estimates.

This study will attempt to clarify and examine several of the gaps in the present literature. Specifically it will explore:

1. Whether children's estimates of their own television viewing become more reliable as the child grows older
2. Whether parents are better able to estimate viewing of their younger or older children
3. The general relationship among diaries and general estimates by parent and child

METHODS

Data collection. The data reported here were collected in a panel survey conducted in October, 1975, and May, 1976 in St. Paul, Minnesota. The panel survey was designed to examine developmental changes in children's interpretations of television series and characters and the subjects' own social behavior. The primary focus of this survey was on children's interpretations of character's behavior on several "target" family-oriented television series which were simultaneously being recorded for content analysis. Several new season programs and series from previous seasons were included in the target group. Because of program cancellations, the October, 1975, list of 12 family programs was reduced during the May, 1976, data collection to nine programs available in the Twin Cities area: Little House on the Praire; The Waltons; The Brady Bunch; The Partridge Family; Good Times; All in the Family; Happy Days; The Jeffersons; and Phyllis.

In order to operationalize the developmental aspects of the research design, subjects from three age groups spanning six years of the cognitive development continuum were sampled -- second, fifth, and eighth grades. In October, 1976, a random sample of 510 names of children were made from lists of students at five grade schools and two junior high schools in the Mounds View school district in suburban St. Paul, Minnesota. Four hundred and twenty children were interviewed in fall, 1975. In May, 1976, 393 children participated in followup interviews including 127 second graders, 138 fifth graders, and 128 eighth graders. In each group, approximately equal numbers of boys and girls were interviewed.

Each child who participated in the interview was asked to complete a television log of his or her late afternoon and evening television viewing for one week at three separate one-week intervals during the school year. Three hundred and nineteen November TV logs were returned (76% response rate). In January,

261 logs were returned (62% response rate). The April logs were returned by 233 subjects (56% response rate). Mothers of these children completed a short self-administered questionnaire in fall of 1975. At this time they were asked to estimate the time their child spent watching television before and after dinner and on weekends. Other questions concerning number of siblings, parental occupation, and number of television sets in the home were asked at this time.

Viewing Measures. A Mother's estimate of her child's total viewing exposures was obtained by summing answers received to the following questions: How many hours does your child spend watching television weekdays before dinner? How many hours does your child spend watching television weekdays after dinner? and How many hours does your child spend watching television on weekends?

The child's exposure was assessed through two types of measures: television diary and general estimates. For each of the three logs total viewing time for the entire week as well as viewing for each separate television program scheduled that week was coded. Thus, the television diary measures include three separate measures of total viewing time for a week in November, January, and April as well as measures of viewing of individual programs within that week.

During the May interview, a general estimate by the child of his or her viewing of the nine "target" shows was obtained. The child responded to the question "How often have you watched?" for each of the nine shows with either "never," "only a few times," "several times," or "a lot." This response provided a qualitative general estimate by the child of the frequency of the viewing of selected specific shows.

RESULTS

Consistency in children's self-reports Analysis of children's estimates of their television viewing was conducted overall and within age groups. Table 1 shows the intercorrelations among the television diaries at time 1, 2,

and 3 for all children combined. The pattern was one of statistical significance with all correlations significant and moderately strong (r=.41 to .57). However, rather than the approximately 20 to 25 hours a week that Nielsen data and other research reports would lead us to expect, children self-reported an average of 13, 14.2, and 8.9 hours per week in the three logs.

When the intercorrelations of children's estimates were examined within age groups a similar strong pattern of correlation appeared (see Table 2). All figures reported in Table 2 are significant at $p<.03$; however, the correlations show no consistent tendency to increase with age. Correlations were lowest between the most temporally distant points in all age groups. That is, consistently those correlations between time 1 and 3 were lowest. These reduced correlations probably reflect seasonal changes in viewing patterns as much as any real changes in viewing habits.

In Table 3, general estimates by a child of the viewing of individual shows were nonparametrically correlated with diary reports of viewing of those same shows. Then compared over all age groups the correlations were generally significant indicating a moderately strong positive relation between children's general and diary estimates.

In Table 4, these correlations between general estimates and log entries were examined separately by age. Second graders, in this case, showed one-half to one-third fewer significant correlations between general estimates and diaries than did fifth or eighth graders. This evidence would provide some support for the conclusion that second graders are less consistent than older children when different self-report measures are compared.

Comparison of mother and child estimates Tables 1 and 5 report the mean estimates of television viewing by mother and child over all age groups and within age groups. Overall mothers estimate that their children watch television 25.4 hours a week. This is compared to children's estimates of 13, 14.2, and 8.9

hours a week (See Table 1). When mothers' estimates are examined by age, differences appear. Second graders report the lowest amount of viewing (x=8.9 hours). Fifth and eighth graders report more viewing (x=13 and 14.2 respectively). While mothers also report less viewing for younger than older children, the absolute differences between mother and child mean estimates are large, ranging from 10.2 to 16.5 hours more viewing estimated by the mother than by the child (See Table 5).

As shown in Table 1, correlations between mother and child estimates of viewing were significant at $p<.001$ at all grade levels. Thus, it would seem that while the absolute amounts of viewing vary greatly, high and low viewers are recognized as such. The correlation between mother and child estimates is consistently highest across all age groups for the winter log. This may reflect increased viewing by the child in winter and, thus, the closing of the gap between mother and child viewing estimates.

In an attempt to account for the discrepancy between mother and child estimates, the effect of certain variables was partialled from the correlation. Number of television sets in the home, whether the mother worked and number of siblings were considered to be variables which might influence the accuracy of a mother's estimate of her child's viewing. In no case did these variables either singly or in conjunction influence the original correlation. Thus it was concluded that the discrepancy between mother and child estimates of viewing could not be accounted for by any of the above variables.

CONCLUSION

These analyses of estimates of children's television viewing indicate few age differences in abilities to produce consistent self-report viewing data. The intercorrelations of children's television log estimates did not improve with age. However, consistency between two different types of self-report

measures, general estimate and television log, did improve for the fifth and eighth graders.

Wide discrepancies between mother and child viewing estimates were found. Greenberg et al. (1972) similarly reported very high disagreement between mother and child on amount of television viewing. In comparing this research with Nielsen data and Lyle (1972) it seems that children reported less television viewing and that mothers tended to report more. An independent assessment of the child's actual behavior (e.g., unobtrusive camera in the home) is required in order to isolate the most valid child viewing measure. Until that time, researchers should be aware that either mother or child estimates of viewing is highly suspect.

Perhaps the most important question to address in resolving this issue is how individuals define what counts as television watching. Data from Bechtel et al. indicate that a variety of activities besides watching go on in front of a television. We also know that co-viewing with children is minimal. Thus it may be that mothers consider the child to be watching television, while children may consider themselves to playing with their toys. An understanding of individual's definitions of television watching may go far in resolving the discrepancies in measures of child viewing.

Table 1

Means and Pearson Product Moment correlations for

mother estimates and child diaries

	Mean estimate of hours watched per week	TV 1	TV 2	TV 3	Mother
Child					
TV Log Time 1	13 hours	-	.50*	.41*	.36*
TV Log Time 2	14.2 hours		-	.57*	.48*
TV Log Time 3	8.9 hours			-	.26*
Mother					
Total TV	25.4 hours				-

* $p < .001$

Table 2

Pearson Product Moment Correlations Among Television Diaries By Age

	Grade		
	2nd	5th	8th
TV Log Time 1 with Time 2	.50	.56	.44
Time 1 with Time 3	.41	.23	.36
Time 2 with Time 3	.57	.54	.66

(all figures are significant at $p<.03$)

Table 3

Correlations Between General Estimates of
Television Viewing & Log Entries

	Spearman Correlation Coefficient		
	TV Log Time	TV Log Time	TV Log Time
Little House on the Prarie	.33*	.32*	.24*
Waltons	.30*	.31*	.13
Brady Bunch	.32*	.31*	.28*
Partridge Family	.17	.34*	.29*
Good Times	.21*	.30*	.08
All in the Family	.25*	.28*	.27*
Happy Days	.23*	.35*	.26*
Jeffersons	.20*	.34*	.26*
Phyllis	.31*	.30*	.26*

* $p<.001$

Table 4

Spearman Correlation Coefficients Between General Estimates of Viewing and Log Entries By Age

	2nd Grade	5th Grade	8th Grade
	TV Log 1 TV Log 2 TV Log 3	TV Log 1 TV Log 2 TV Log 3	TV Log 1 TV Log 2 TV Log 3
Little House	.35* .41* .24	.32* .25* .18	.31* .18 .26*
Waltons	.31* .30* .13	.29* .40* .16	.33* .27 .12
Brady Bunch	.33* .21 .24	.30* .30* .39*	.36* .34* .13
Partridge Family	.21 .24 .25	.14* .39 .27*	.28* .32* .38*
Good Times	.22 — —	.22 .31* .01	.20 .44* .15
All in the Family	.23 .25 .21	.25* .27* .28*	.25* .32* .30*
Happy Days	.20 .22 .25	.26* .41* .28*	.21 .39* .21
Jeffersons	.30* .21 .20	.11 .43* .33*	.28* .32* .21
Phyllis	.24* .20 .00	.35* .43* .27*	.32* .21 .48*

* $p < .01$

Table 5

Means of Child and Mother
Estimates of Viewing By Age

	2nd	5th	8th
Child Log			
Time 1	10 hours	12.9	16.2
Time 2	10.4	16.2	14.9
Time 3	6.2	9.9	11.5
Mother Estimate	23.6	26.4	26.3

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